

Appl. No. 09/774,552
Amndt. Dated February 5, 2004
Reply to Office action of November 7, 2003

REMARKS/ARGUMENTS

Double Patenting

Claims 1-47 were rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-34 of US patent No. 6,470,071. Attached herewith is a terminal disclaimer in compliance with the requirements set forth in 37 CFR § 1.321(b) and (c) which disclaims the terminal part of any patent on the present invention which would extend beyond the expiration date of the full statutory term, as presently shortened by any terminal disclaimer, of US Patent No. 6,470,071. Accordingly, Applicant requests that the Examiner reconsiders and removes the obviousness-type double patenting rejection of claims 1-47.

Claims define allowable subject matter over the applied art

Claims 1-7, 9-23, 25-34, 36-42 and 44-47 were rejected under 35 U.S.C. 103 (a) as being unpatentable over Murthy et al (US patent 6,055,295) in view of Polichar et al (US patent 6,205, 199). Claims 8, 24, 35, and 43 were objected to as being dependent on a rejected base claim but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Applicant has carefully reviewed the applied references and respectfully traverses the rejection of independent claims 1, 15, 34 and 39 under 35 USC 103(a) as being unpatentable over Murthy et al in view of Polichar et al. Applicant respectfully submits that the primary reference of Murthy does not teach, suggest or disclose the independent claims 1, 15, 34 and 39.

To establish prima facie obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. Further, the Applicant respectfully submits that it is a well-established law that the references must be viewed without the benefit of impermissible hindsight vision afforded by the claimed invention.

Murthy appears to describe a method for automating collimator settings during x-ray imaging such that the collimator covers the non-body regions and exposes the body regions for imaging. Murthy's technique employs receiving scout images at each imaging station, processing the image to detect body and non-body regions and based on these regions generating and storing collimator settings for covering non-body regions, for later use. Murthy employs an offline system (automatic collimation apparatus 38) to generate these collimator settings (column 3, line 52- 58 and Fig. 1). At each imaging station scout images are taken, collimator settings computed in the offline apparatus and stored and the x-ray source is moved to the next imaging station. In direct contrast, Applicant's invention is particularly well adapted for using an offline system, normally used for non real-time

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operations, for real-time control and monitoring of radiation generation and detection system. Support for this can be found in the Applicant's specification in the section 'Background of the Invention' lines 6-20 on Page 4, in 'Brief Summary of the Invention' line 19-22 on Page 4 and in the section Detailed Description of the Invention, lines 27-28 on Page 22 through lines 1-2 on Page 23. Specifically, Applicant's invention uses a detector framing node 304 which includes an image detection interface 376, a control unit 370 and a memory unit 380 as shown in Fig. 18. The detector framing node communicates through the communication interface, the image data to a host processor independent of the host operating system. The detector framing node also receives event instructions from the host computer via the communication interface for controlling the generation system and image detection system in real time. Support for this can be found in the specification in the section 'Brief Summary of the Invention' lines 24-28 on Page 4 through lines 1-8 on Page 5. The structure and the functionality of the detector framing node and its components, has been described in detail in the Applicant's application, for example in discussion in reference to Fig. 15, Fig 18, Fig. 27, Fig. 46 and Fig. 48 in the section 'Detailed Description of the Invention'. For example, in reference to Fig. 15 in the section 'Detailed description of the invention' on Page 25, lines 12-25 describe in detail how the detector framing node communicates with the radiation generation system and the image detection system in real time. By contrast, Murthy is completely devoid of any teaching, suggestion or disclosure about the use or structure of the detector framing node, as described in Applicant's application and as cited hereinabove, in his automatic collimation apparatus. Further there is no teaching, suggestion or disclosure in Murthy's technique about the real time control and monitoring of the radiation generation and imaging system, the problem being addressed in Applicant's invention. Murthy's technique is limited to merely providing automatic settings for collimator.

Applicant's respectfully submits, that it is not pertinent, whether the prior art device possesses the functional characteristics of the claimed invention, if the reference does not describe or suggest its structure, and the claimed invention should not be used in hindsight to interpret the applied reference. Further, in order to render a claimed apparatus or method obvious, the prior art must enable one skilled in the art to make and use the apparatus or method. As described hereinabove, Murthy's technique and apparatus would not enable one skilled in the art to make and use the Applicant's invention. More specifically, the claim limitations as described in independent claims, specifically, the detector framing node including an image detection interface, a control unit and a memory unit, of claim 1; a computer communication bus, an image detection interface, a detector memory unit and a computer communication interface, of claim 15; a card connected to the computer communication bus to receive image data from an image detection bus at a first clock frequency and to communicate the received image data to the host memory through the computer communication bus at a second clock frequency different than the first clock frequency, of claim 34; and the detector framing node including an image detection interface, a plurality of frame buffer memory units and a control unit to select a predetermined portion of the image for storage into a selected frame buffer memory unit of claim 39, are not suggested, disclosed or taught by the applied reference of Murthy. Accordingly, Applicant respectfully submits that Independent Claims 1, 15, 34 and 39 define allowable subject matter over the applied art.

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The secondary reference of Polichar does not overcome the above noted deficiencies of Murthy. Polichar merely discloses a digital system capable of recording and digitizing the individual x-ray image data, storing this data in a portable computer and using the computer to selectively display and/or transmit the image to remote locations (column 3, lines 15-25). The above discussed limitations of the independent claims of the Applicant's invention are still not described in Polichar. Therefore, the combination of Polichar with Murthy would not obtain Applicant's claimed invention as recited in claims 1, 15, 34 and 39.

Accordingly, Applicant respectfully submits that the Office Action did not make a prima facie case of obviousness for the independent claims 1, 15, 34 and 39.

Claims 2-7, 9-14 depend directly or indirectly from claim 1, claims 16-23, 25-33 depend directly or indirectly from claim 15, claims 36-38 depend directly or indirectly from claim 34 and claims 40-42, 44-47 depend directly or indirectly from claim 39. Applicant respectfully submits that claims 1, 15, 34 and 39 are patentably distinct from the applied references for the reasons discussed above and that claims 2-7, 9-14, 16-23, 25-33, 36-38, 40-42, and 44-47 are similarly allowable over the applied references.

Summary

In view of the foregoing, Applicant respectfully submits that the application is in condition for allowance. Favorable reconsideration and prompt allowance of the application are respectfully requested.

Should the Examiner believe that anything further is needed to place the application in even better condition for allowance, the Examiner is requested to contact applicant's undersigned representative at the telephone number below.

Respectfully submitted,

By Jean Testa
Jean Testa
Reg. No. 39,396
General Electric Company
Building K1, Room 3A62
Schenectady, New York 12301
Telephone: (518) 387-5115

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